



# ***Baking A to Z***

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## **Greetings from ECD-U!**

**The session will begin at the scheduled time.**

**As a courtesy to others on the session **PLEASE** be sure:**

- 1. Your audio is connected via phone or VoIP before the scheduled class time,**
- 2. Your phone is on MUTE during the session.  
Please do NOT put your phone on HOLD**

**If you would like to ask a question, please use the “chat” feature on your Go-To-Meeting dialog**

**\*This session may be recorded for training or distribution\***

**We want to know what you expect from this class. So please be ready to “chat” your input into the dialog box at the right.**



SINCE 1964

Standard ECD M.O.E.

Classic PCB Finishing  
W.S.L.P.  
Wettable W.S.L.P.

Advanced Quality Management  
Production  
Customer Service



**Mark**



**Paul**



**Todd**



**Rex**



# ***Baking A to Z***

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## Outline

- Terms and definitions
- Baking requirements
- What's needed to Profile
- Setting up the Profiler
- Attaching the T/Cs
- Performing the Profile





# Baking A to Z

## Terms and Definitions

**Profile** – The graphical plot of temperature and or humidity over time, as measured at one or more points of interest

**Set Points** – Oven settings required to produce the desired Profile

**Actuals** – The current value of oven conditions compared to Set Points





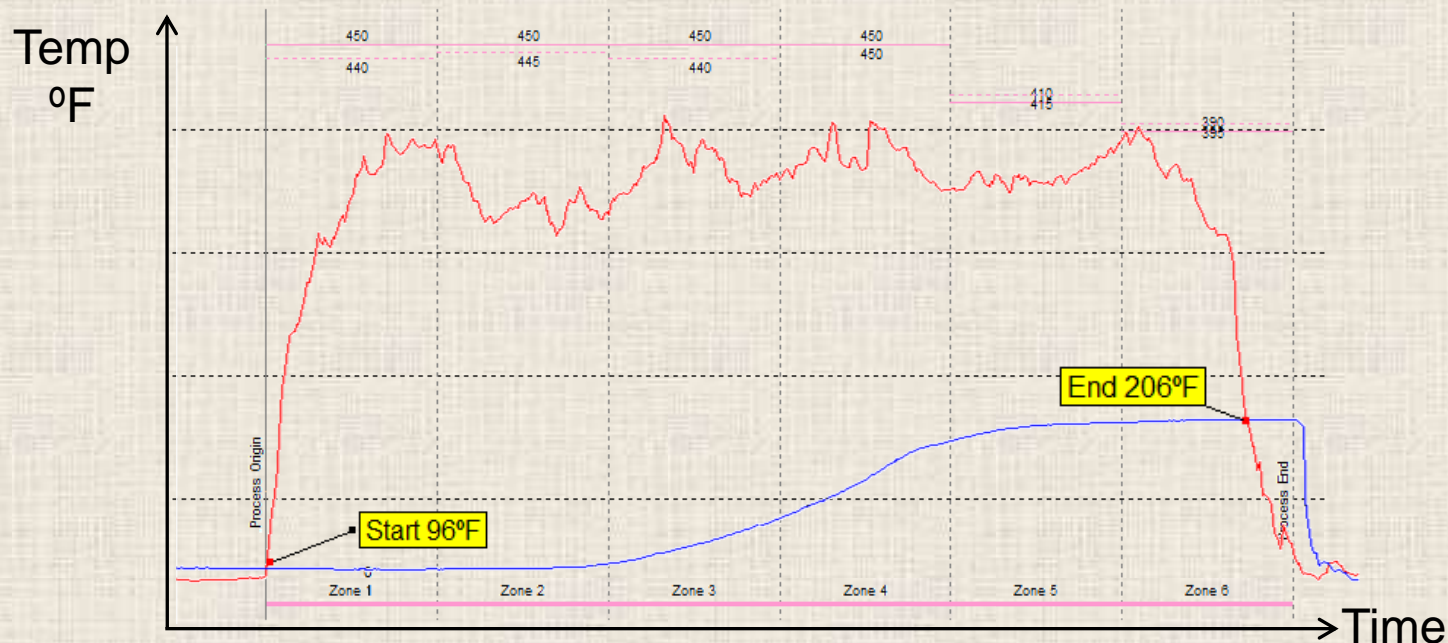
# Baking A to Z

## Terms and Definitions

**Start** – The internal temperature of the dough as it enters the oven

**End** – The internal temperature of the dough as it exits the oven

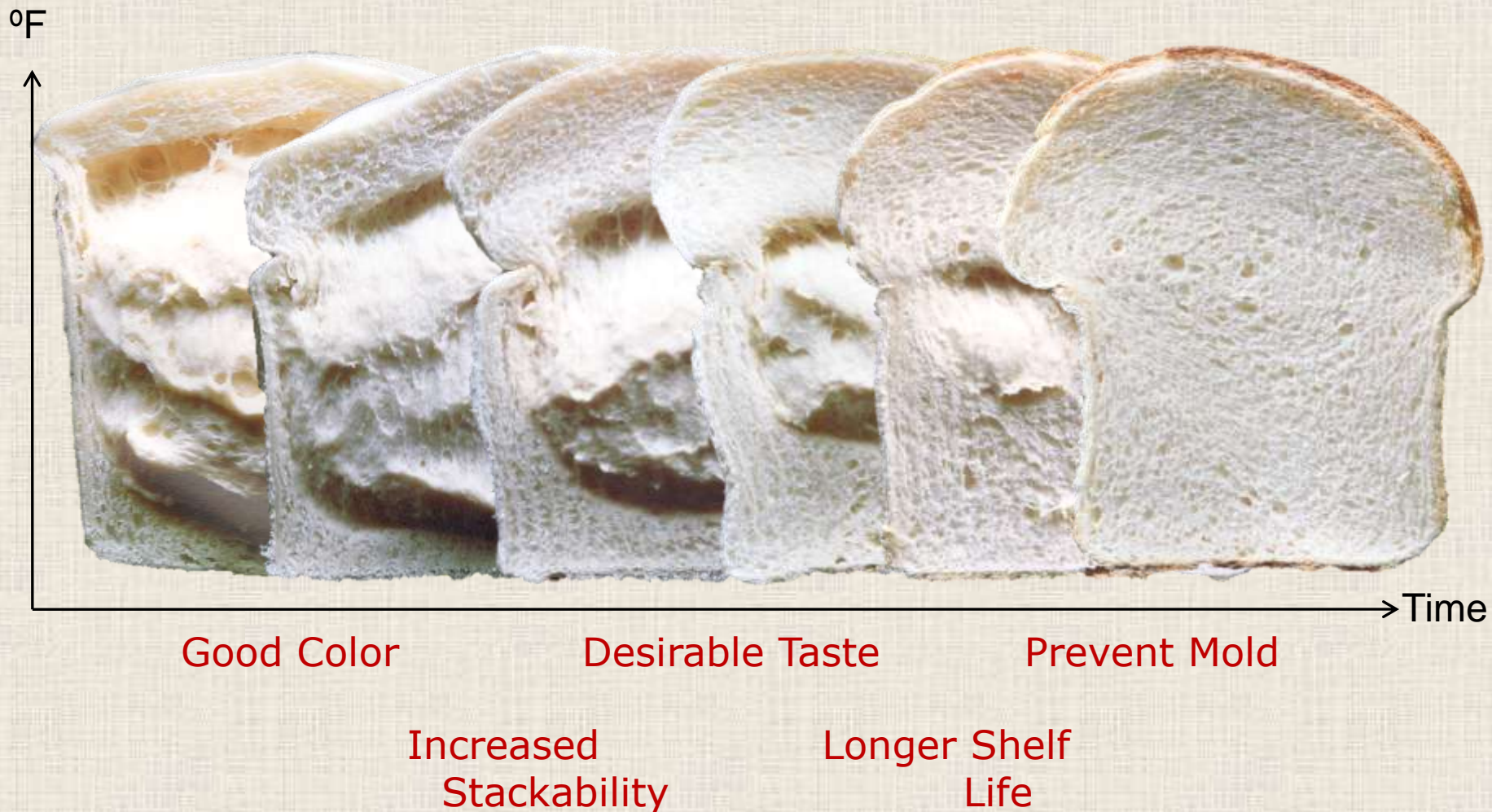
**Bake Time** – The total time between Start Temp and End Temp





# ***Baking A to Z***

## Baking requirements\*







# Baking A to Z

## Baking requirements\*

**Yeast Kill** – The % of Bake Time required to heat the internal dough temperature the Yeast Kill Temperature

**Arrival** – The % of Bake Time required to heat the internal dough temperature to the Arrival Temperature





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## Baking requirements\*

	Internal Dough Temperature °F	% of Bake Time
Yeast Kill	140	50 - 55
Gelatinization	170	60 - 65
Arrival	200	85 - 88





# ***Baking A to Z***

## What's needed to profile

1. Products to profile
2. Thermocouple Sensors
3. Profiler
4. Thermal Barrier
5. Calipers
6. Stop watch
7. Paper and Pencil
8. Computer
9. Software
10. Gloves
11. Cooling fan





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## Setting up the Profiler

- 1 second log interval
- All channels ON

Setup Instrument

Instrument Name: Pauls GMOLE

Recording Interval  
Hour: 0 Minute: 0 Second: 1 1/10: 0

More >>

Channel	O	Location	Type
1	<input checked="" type="checkbox"/>	Sensor 1 Location	Type-K
2	<input checked="" type="checkbox"/>	Sensor 2 Location	Type-K
3	<input checked="" type="checkbox"/>	Sensor 3 Location	Type-K
4	<input checked="" type="checkbox"/>	Sensor 4 Location	Type-K
5	<input checked="" type="checkbox"/>	Sensor 5 Location	Type-K
6	<input checked="" type="checkbox"/>	Sensor 6 Location	Type-K

Basic Profiling

Help << Previous Next >> Finish Cancel



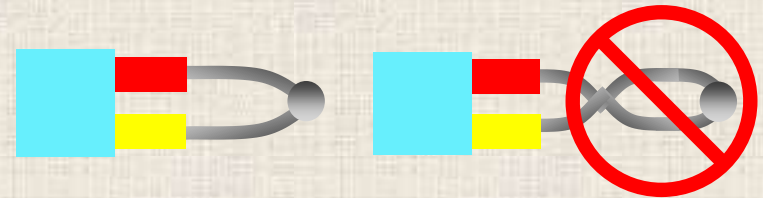
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## Attaching the T/Cs\*

### **Prep the Thermocouples**

- Make sure T/Cs are good
- Separate T/C wires
- Identify T/C 1 for ambient temperature
- Set the caliper to  $\frac{1}{2}$  the projected bake height
- Bend the T/Cs 2 through 6 at this length







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## Attaching the T/Cs\*

### **Prep the Pan**

- Take pan from the proofer
- Remove half dough from center pan
- Place barrier on dough
- Attach T/C 1 above dough
- Start profiler
- Close and barrier
- Avoid tight twists and kinks





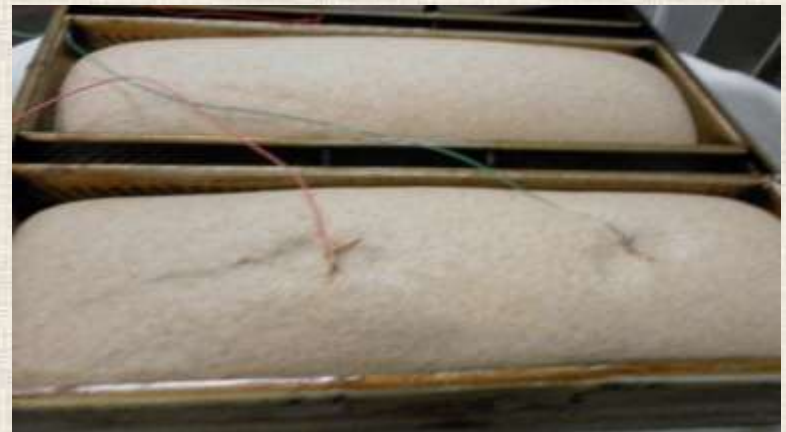
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## Attaching the T/Cs\*

### **Prep the Pan**

- Insert the T/C along the dough center to the bend
- Pinch dough at insertion point
- Two T/Cs in each dough piece
- Use dough to secure wires
- Put remaining dough on barrier





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## Performing the Profile\*

### **Loading the pan**

- Make certain oven operator is aware
- Ask for assistance
- Set stopwatch to bake time
- Place pan on grouping conveyor
- Best in the center of the group
- Visually check for clearance
- Start stopwatch as loader pushes pans







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## Performing the Profile\*

### While waiting for Bake

- **NEVER** leave the oven area
- Note oven zone set points
- Note oven zone actuals
- Note any oven dwells or stoppages
- Keep an eye on the stopwatch
- Be present at oven exit early
- Stop timing when unloader delivers pans





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## Performing the Profile\*

### **While waiting for Bake**

- Set pan aside
- Open the barrier box
- Gently remove T/Cs
- Stop profiler logging
- Take everything with you
- Download the profiler



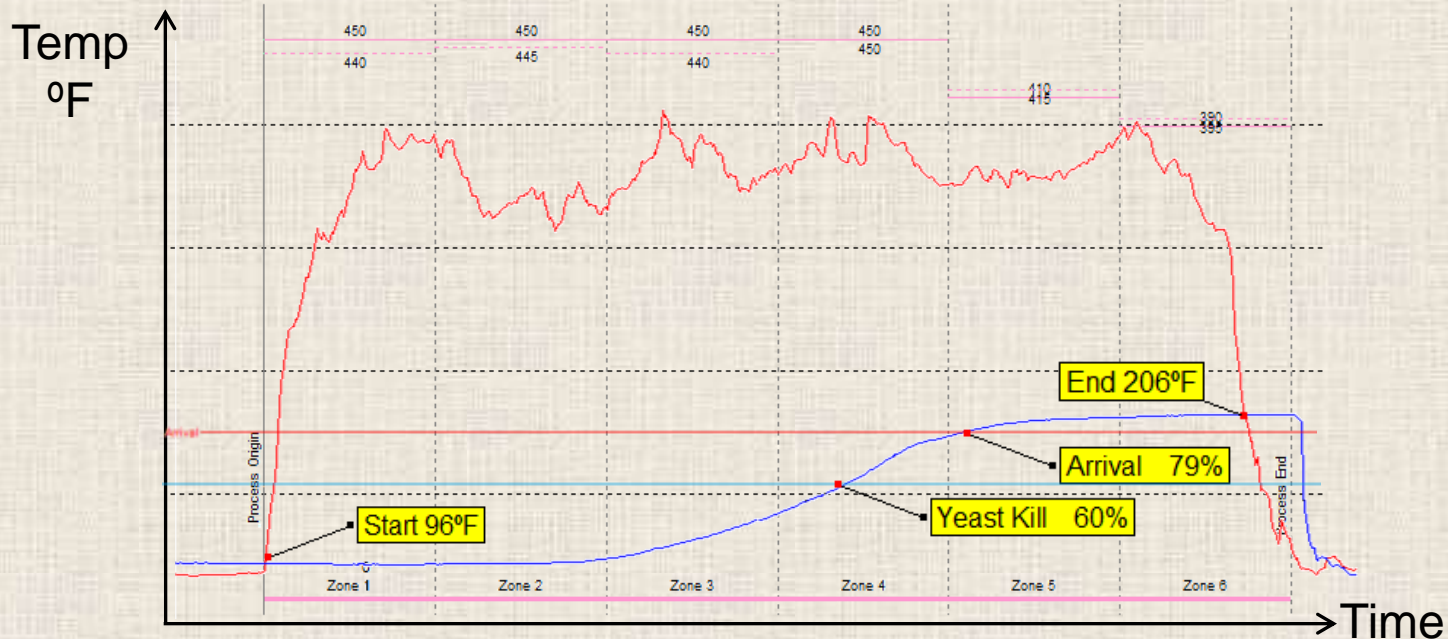


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## Performing the Profile\*

### Check profile

- Start temp
- Yeast kill %
- Arrival %
- End temp







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## Summary

- ✓ Terms and definitions
- ✓ Baking requirements
- ✓ What's needed to Profile
- ✓ Setting up the Profiler
- ✓ Attaching the T/Cs
- ✓ Performing the Profile



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**Thank you for attending today's class**

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Thank you